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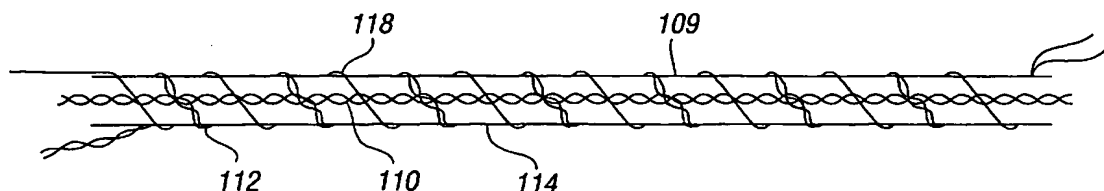
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INTERCONNECTING CABLE



(57) Abstract: The invention relates to the provision of a cable and method of producing the same. The cable can be adapted and used for the generation of audio, video, data, electrical supply and other uses and comprises at least two conductor sets running along the cable. Each conductor set includes at least two conductors wound or twisted round each other with a known degree or ratio of twist. The conductor sets are spaced apart as they run along the cable and in one embodiment this is achieved by providing an elongate member along the cable to retain the spacing of the conductor sets. If required and with reference to the spacing between sets, the degree or ratio of twist or winding of the conductors in each set can be varied between sets. The cable of the invention has significantly improved performance with respect to conventionally available cables.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 03/01005

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01B11/04 H01R24/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01B H01R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/54139 A (BELDEN WIRE AND CABLE COMPANY ;TASH THOMAS G (US); SHUMAN BRIAN R) 26 July 2001 (2001-07-26)	1-3,5, 11,12, 14-17, 20,24,25 42-44
A	page 6, line 11 - page 21, line 20; figures 1-12	
X	US 6 297 454 B1 (GAREIS GALEN M) 2 October 2001 (2001-10-02)	1-3,5, 11,12, 14-17, 20,24,25 42-44
A	column 2, line 43 - column 6, line 65; figures 1-9	
P,A	FR 2 818 000 A (SAGEM) 14 June 2002 (2002-06-14) page 7, line 21 - page 16, line 33; figures 6-9	1-27, 42-44
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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- "&" document member of the same patent family

Date of the actual completion of the international search

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	W0 00/49683 A (WEATHERLEY RICHARD) 24 August 2000 (2000-08-24)	28, 37
A	page 8, line 8 - page 17, line 5; figures 1-19	29-36, 38-41
A	----- EP 0 755 100 A (TELESAFE AS) 22 January 1997 (1997-01-22) page 3, line 57 - page 9, line 7; figures 1-12 -----	28-41

INTERNATIONAL SEARCH REPORT

PCT/GB 03/01005

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-27 and 42-44

A cable and a method for forming a cable.

2. claims: 28-41

A plug; A socket.

INTERNATIONAL SEARCH REPORT

Information on patent family members

PCT/GB 03/01005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0154139	A	26-07-2001	AU 4515301 A WO 0154139 A1	31-07-2001 26-07-2001
US 6297454	B1	02-10-2001	AU 2575501 A BR 0016077 A CA 2386896 A1 EP 1238397 A1 HU 0203157 A2 WO 0141158 A1 US 2003132021 A1	12-06-2001 06-08-2002 07-06-2001 11-09-2002 28-12-2002 07-06-2001 17-07-2003
FR 2818000	A	14-06-2002	FR 2818000 A1 EP 1215688 A1	14-06-2002 19-06-2002
WO 0049683	A	24-08-2000	AU 2564300 A WO 0049683 A1 GB 2348745 A ,B US 6558204 B1	04-09-2000 24-08-2000 11-10-2000 06-05-2003
EP 0755100	A	22-01-1997	NO 960840 A AT 218013 T DE 69621289 D1 DE 69621289 T2 DE 755100 T1 EP 0755100 A2 US 5766040 A	01-09-1997 15-06-2002 27-06-2002 02-01-2003 09-10-1997 22-01-1997 16-06-1998